

AWIPS SOFTWARE INSTALLATION INSTRUCTION NOTE 54

(for Electronics Systems Analysts)

Maintenance, Logistics, and Acquisition Division

W/OPS12: JCS

SUBJECT: Release OB4.2 Installation Kit

PURPOSE: To provide Release OB4.2 software CDs, installation instructions and related information

EQUIPMENT AFFECTED: AWIPS

PARTS REQUIRED: The installation kit contains the following items:

1. Three installation CDs
2. Installation Script Log Output (with error information)

SPECIAL TOOLS REQUIRED: None.

AFFECTED SITES: All AWIPS sites must install this Release.

PREINSTALLATION REQUIREMENTS: All AWIPS sites must install at least OB4.1 and have the DX/NAS hardware installed and running. All WFO systems must have IFPS 16.2 installed and running.

SECURITY LEVEL: Root

ESTIMATED TIME REQUIRED: Pre-installation activities could take several hours, and should be completed several days before the full installation. The main OB4.2 install takes about 4 to 6 hours to complete, depending on the number of workstations. The post-installation activities may take an additional 2 hours, depending on the site.

Due to the length of the main install, service backup may be required on the day of the install.

EFFECT ON OTHER INSTRUCTIONS: File this note in EHB-13, Section 3.1.

AUTHORIZATION: The authority for this modification note is Request for Change AC595.

VERIFICATION STATEMENT: The OB4.2 installation procedure was tested and verified at National Headquarters Silver Spring, MD (NMT systems), Central Region Headquarters Kansas City, MO (BCQ), Southern Region Headquarters Ft. Worth, TX (EHU), Western Region Headquarters Salt Lake City, UT (VHW), Alaskan Region Headquarters Anchorage, AK (VRH), WFO Billings, MT (BYZ), WFO Glasgow, MT (GGW), WFO Tulsa, OK (TSA), WFO Pleasant Hill, MO (EAX), RFC Portland, OR (PTR), WFO Sterling, VA (LWX), WFO Jackson, MS (JAN), WFO Anchorage, AK (AFC), and the Radar Operations Center Norman, OK (OSFW).

TECHNICAL SUPPORT: For questions or problems regarding these installation instructions or installing this Release, please contact the NCF at 301-713-9344.

A. GENERAL INFORMATION:

The installation must be scheduled in advance in order to provide adequate installation support. Sites must coordinate the ROB4.2 installation with the regional or NCEP center AWIPS focal point. The regional AWIPS focal points can schedule a maximum of three sites per day, Monday through Thursday, using the NOAA Oracle calendar under the resource name of NWS AWIPS Schedule. Sites that do not have a regional AWIPS focal point can coordinate the install date with Sanford Garrard (sanford.garrard@noaa.gov) at Weather Service Headquarters.

NCF/NGIT upgrade support during deployment is from 8:00 am to 5:00 pm Eastern Time (ET) Monday through Wednesday, and 10:00 am to 7:00 pm ET on Thursday. NCF/NGIT assumes that sites will follow the set support hours. OCONUS sites requiring upgrade support outside of the listed time frames must coordinate in advance through the regional AWIPS focal point.

B. INSTALLATION PROCEDURE:

All prerequisites, coordination requirements and installation instructions are located in Attachment A, "*Installation Instructions for AWIPS Release OB4.2.*" Review the instructions before performing the upgrade. It is important to complete Part 0 at least one day before the rest of the upgrade since it includes a physical inspection of the installation CDs for possible damage in transit.

C. REPORTING INSTRUCTIONS:

Report the completed software installation using the Engineering Management Reporting System (EMRS) according to the instructions in NWS Instruction 30-2104, Maintenance Documentation, Part 4, and Appendix F. Include the following information on the EMRS Report:

Block #	Block Type	Information
5	Description	Install AWIPS Release OB4.2
7	Equipment Code	AWIPS
8	Serial Number	001
15	Comments	Installed Release OB4.2 I.A.W. AWIPS Software Installation Instruction Note 54.
17a	Mod. No.	S54

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Attachment A - Installation Instructions for AWIPS Release OB4.2
Attachment B - EMRS Report Sample

Attachment A

Installation Instructions for AWIPS Release OB4.2

General Information

There are 169 Advanced Weather Information Processing Systems (AWIPS) in the National Weather Service (NWS). These systems are located in national centers, development test beds, training centers, regional headquarters, national headquarters, and field sites across the country. Each AWIPS is defined as a Weather Forecast Office (WFO) system or a River Forecast Center (RFC) system. The identity of the system can be determined by checking the `$SITE_TYPE` variable. Each AWIPS also has a unique site name, which can be determined by checking the `$SITE_IDENTIFIER` variable.

These instructions are written for both RFC systems and WFO systems. As a result, some instructions may only be applicable to RFC systems, WFO systems, or individual sites. Each step or section is clearly marked. **All steps are required unless otherwise directed in the instructions.**

Pre-installation activities may take up to 2 hours, and should be completed several days before the full installation. The main OB4.2 install averages 4 to 6 hours to complete depending on the number of workstations. The post-installation activities may take an additional 2 hours, depending on the site.

During the install, a full localization is run on PX2 and the results are pushed to all servers and workstations. Model data is queued up, but text data ingest downtime is about 4 hours.

Do NOT use Ctrl+C to stop installation scripts during the install.

Do not proceed if any unexpected problems occur during the install. Instead, contact the NCF before taking any action.

Preface

The AS1 and AS2 servers are removed from the Fiber Distributed Data Interface (FDDI) ring and powered down in Part 9 of the OB4.2 installation procedures. As a result, sites must ensure local application programs have been moved off AS1 and AS2 before completing Part 9.

Users cannot log into D2D until after Part 8, when users can first log onto the system.

After installing OB4.2, no RRS files (HADS products) enter the system because they are filtered out by the OB4.2 version of the `acq_wmo_parms.sbn` file. This is done to improve AWIPS performance. In part 9 a post install step must be run before the site can receive site-specified HADS products into the AWIPS database.

There are no OB4.2 versions of the *System Manager's Manual* (SSM) or *AWIPS User's Manual*. However, with item 1, below, the site can infer what sections of the OB5 versions of the SSM and *AWIPS User's Manual* are pertinent to OB4.2.

After the install, as a performance enhancement, `NOAFOSPIL` is disabled. This means that storage of the `NOAFOSPIL` product no longer takes place.

There are significant changes to purging in OB4.2. Sites needing to customize purge parameters must become familiar with the new methodology before modifications can be made. By early March, 2005, a draft of the OB5 version of the SMM should be available with purging information (see Chapter 11). This can be used because purging in OB4.2 is the same as in OB5. If the SMM is not available, use the early draft of SSM Chapter 11 (see item 6) on the following web page.

There are no release notes for OB4.2. Information on software changes and other useful documentation can be found at:

<http://www.nws.noaa.gov/mdl/icwf/OB4.2Modifications/>

The following items are found on the web page:

1. What's in OB4.2
AWIPS OB5 Release Notes, Section I - New functionality indicates if items are also in OB4.2.
2. Closed OB4.2/ OB5 DRs
These are OB5 Discrepancy Report (DR) fixes that are also corrected in the OB4.2 software.
3. OB4.2/ OB5 DRs To Be Tested at Sites
These are additional OB5 DRs fixes found in OB4.2. At the time the document was posted, formal closure of the DRs did not take place.
4. Process Locations Following AWIPS OB4/OB4.2/OB5 Installations
Indicates where (using architecture slides) software processes are found after installing the specified release.
5. Start/Stop Scripts and Script Locations
Indicates where specified scripts are moved after the OB4.2 install.
6. Early draft of Chapter 11 OB5 SSM (contains purging info)
Draft of Chapter 11 of the OB5 version of the SSM containing information on purging.
7. Additional Issues
Status of problems found late during OB4.2 Beta testing.

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Part 0 - Pre-installation Activities

NOTE: Each step applies to both RFC and WFO systems unless otherwise noted. Complete steps as directed one or more days before continuing with the remainder of the installation.

1. Check Prerequisites.
The following items must be completed before performing the OB4.2 upgrade.
 - a. At least the OB4.1 release is installed.
 - b. At least the IFPS 16.2 maintenance release is installed on WFO systems.
 - c. The DX/NAS hardware is installed and running.
 - d. Ensure local application programs have been removed from the AS1 and AS2 servers to other devices. This is necessary because those servers are powered down in Part 9.
 - e. Coordinate the OB4.2 upgrade with other sites, including service backup sites, as needed. Remember that the following wide area network (WAN) hub site pairs must never go into service backup at the same time: BOX/CTP; EAX/TSA; MPX/ILN; FFC/LIX; STO/PQR; and SLC/FWD.
 - f. Confirm installation date with the backup site(s).
 - g. If the site is a Weather Wire uplink site, ensure (through the AWIPS regional focal point) that the backup Weather Wire site(s) are not concurrently doing the upgrade.
 - h. Sites that support the Center Weather Service Unit (CWSU) connection to an AWIPS workstation must coordinate the install with the CWSU personnel, since the connection is disconnected during the upgrade.
2. Review Addendum/Errata Document.
An addendum/errata document that contains change pages is normally posted at http://www.ops1.nws.noaa.gov/awips_software.htm. This document is updated frequently during the first few weeks of deployment. Check the web page to see if the document exists. If it does, download it and replace the appropriate page from this installation document. Also, check the web page again shortly before beginning the actual upgrade to see if a more updated version is available.
3. Remove Alpha/Beta Test Software.
As a general rule, sites testing alpha/beta software should remove the test software before the OB4.2 upgrade.
4. Review WWA and WarnGen Template Information. (WFO systems only)
In OB4.2, no new WWA or WarnGen templates were delivered. Therefore, no pre-install step is needed.
5. Locate Documentation Containing OB4.2 Changes.
There are no release notes in OB4.2. However, information on changes made in OB4.2 can be found on the following web page:
<http://www.nws.noaa.gov/mdl/icwf/OB4.2Modifications/>

6. Modify local applications, as applicable.
The installation of OB4.2 moves the IFPS servers and crons from the PX cluster to DX2. As a result, local applications or scripts which explicitly use PX1 or PX1f have to be changed in order for them to work after installation.

The IFPS environment file, `/awips/adapt/ifps/localbin/ifps-ccc.env` (where `ccc` is the WFO identifier) contains an environment variable `CDSHOST`. If that environment file is sourced in during local script execution, then `$CDSHOST` points to the host where the IFPServer is running. It is strongly recommended that sites use this method now and in the future.

These changes may be made in advance, as `$CDSHOST` automatically changes from PX1f to DX2f during the OB4.2 upgrade.

7. Review automatic File Backup and Restore Information.
Each section lists what files are automatically saved and/or restored during the OB4.2 upgrade. Other files not listed should be manually saved off to a safe directory as needed.

- *Part 2, Install Linux Software.*
No files are saved off.
- *Part 3, Install OB4 CP Software.*
No files are saved off.
- *Part 4, OB4 Pre-Install Script.*
No files are saved off.

Similar to previous releases, the cron files from DS1 and DS2 are updated and replaced. If the site has made customized changes to any of the crons in the `/var/spool/cron/crontabs` directory, then those files should be manually saved off and merged back in after the upgrade.

- *Part 5, Install LAPS Software.*
No files are saved off.
- *Part 6, Install OB4 Hydrology Software.*
No files are saved off.
- *Part 7, Install OB4 FXA/System Software.*
No files are saved off.
- *Part 8, OB4 Post Install Script.*
No files are saved off.

8. Review localization information.
Similar to OB4, a full localization is run on PX2 during the installation, and the results are pushed to the other servers and workstations. Therefore, all current and active customized files should either be placed in `/data/fxa/customFiles` or `px2:/awips/fxa/data/localization/LLL` where `LLL` is the AWIPS localization identifier. An identically named file should not be placed in both directories, since it could cause confusion to the user attempting to make changes in the `localization/LLL` directory.
Any RPS lists that were modified using the method in the SSM should be saved to the `customFiles` directory to preserve changes after the install.

9. Replace AS1/AS2 with DS1/DS2 in Console Replacement System (CRS) `/etc/hosts` file. Every 30 minutes a message is sent to from the CRS to AS1. Since the AS servers are deactivated after the upgrade, the hosts file needs to be updated to point to the DS servers. To change the file, go to the following CRS web page and perform the instructions in the document, *Instructions to Replace AS1/AS2 with DS1/DS2 in CRS /etc/hosts file*:

http://www.weather.gov/ops2/crs/document/OB42_Mod%20Note%20CRS%20Addendum.pdf

10. Obtain files from NOAA1 server.

The files must be downloaded from the NOAA1 server and placed in directory `/home/ncfuser`. The files are called `testuser.sh`, `check_process.sh`, and `fixrfcperms.sh` (used on RFC systems).

- a. From a Linux workstation, log on as `root`; open a terminal window and log onto the **PX2** as `root`.

rlogin px2

- b. Go to the `/home/ncfuser` directory and connect to the NOAA1 FTP server:

i. **cd /home/ncfuser/**

- ii. Complete either step 1 or step 2, as applicable, to connect to the server.

Use step 1 on or after April 1, 2005 when a new Linux-based NOAA1 server becomes operational.

Use step 2 before April 1, 2005 to connect to the old NOAA1 server.

1. [sftp ftpawips@165.92.25.137](ftp://ftpawips@165.92.25.137) Use for new NOAA1 server

Once connected to the NOAA1 server, use `!SAWIPS4` as the password.

Or

2. [ftp 165.92.25.15](ftp://165.92.25.15) Use for old NOAA1 server

Once connected to the NOAA1 server, logon as user `ftp`, and use email address as the password.

- c. Get the national data and other files using the following sequence of commands. (If using the new NOAA 1 server, skip steps i through iii.)

i. **binary**

ii. **hash**

iii. **prompt** (Optional. Use to prevent prompts for each file)

iv. **cd /pub/BuildOB42**

v. **mget *** (Three files are downloaded)

vi. **bye** (Exits NOAA1 server)

- d. Set permissions.

chmod 775 check_process.sh testuser.sh fixrfcperms.sh

11. Run the `testuser` script to prepare for the `setupSSHkeys` script.

The `testuser.sh` script should be run on **PX2** before executing the `setupSSHkeys` script. It is used to search for any defunct users (ones that no longer have accounts or home directories) which could cause problems for `setupSSHkeys` script. The `setupSSHkeys` script generates (part of) the list of users from the `fixalpha` group.

From **PX2** as user `root`, type the following command and follow the instructions the script provides:

- a. `/home/ncfuser/testuser.sh`
- b. Remove defunct users flagged by the program.

12. Review miscellaneous information.

- a. As a result of the install, the `asynchScheduler` program cannot be used until Part 9, step 2 is complete.
- b. The `~/ .ssh/authorized_keys2` file is recreated during the upgrade. Sites modifying the file with local additions need to replace these modifications after the install.
- c. Several IFPS16.2/OB4.2 issues have materialized. For details, go to the following web page:
<http://www.nws.noaa.gov/mdl/icwf/IFPS16.2Full/LessonsLearned.html>

13. Switch Time Synchronization for Gauntlet Firewall

The Gauntlet Firewall does its time synchronization on AS1/AS2 using network time protocol (NTP). After the DX/NAS was installed, the NTP moved from AS1/AS2 to DX1/DX2. The Gauntlet firewall must be reconfigured to look to these devices for time synchronization. To do this, execute the procedure in the document *Time synchronization for Gauntlet Firewall* on the following web page to configure the firewall to receive the NTP time broadcasts from DX1/DX2 servers.

http://www.ops1.nws.noaa.gov/awips_install.htm

14. After installing OB4.2, no RRS files (HADS products) enter the system because they are filtered out by the OB4.2 version of the `acq_wmo_parms.sbn` file. This is done to improve AWIPS performance. In part 9, step 4, a post install procedure must be run before the site can receive site-specified HADS products.

Input into the procedure is a list of RRS WMO IDs for products that the site needs to store. Review part 9, step 4 and create the list before the install. An approach is to create the RRS AFOS product inventory list (PIL) that the site uses (i.e., `MSPRRSMPX`) and convert to the corresponding WMO IDs by using the `textdb` command (i.e., `textdb -r MSPRRSMPX | head -1`).

NOTE: The installation CDs are needed for steps 15 through 18 in Part 0.

15. Check OB4.2 CDs.

The install package included three CDs. Verify the following information for each of the CDs.

- a. Check the name on each CD.
 - i. LDAD, LINUX WFO-A, LINUX NGIT.

- ii. OH, LAPS.
 - iii. HP WFO-A, NGIT UX.
- b. Physically inspect for visible scratches or other damage.
- c. Check the contents of the CD.
 - i. Take the CD labeled HP WFO-A, NGIT UX and insert into CD-ROM drive on PX2.
 - ii. Log onto **PX2** as `root`, and type the following:


```
ll /mnt/cdrom
```
 - iii. If the directory does not exist, type


```
mkdir /mnt/cdrom
mount /mnt/cdrom
```
 - iv. Verify that the contents are viewable.


```
cd /mnt/cdrom
ll
```
 - v. Eject by typing:


```
cd /
eject cdrom
```
- d. Repeat step c with the second CD (OH, LAPS).
- e. Repeat step c with the third CD (LDAD, LINUX WFO-A, LINUX NGIT).
- 16. Ensure all system components (XT, LX, PX, DX, etc.) are powered on and operating normally.
- 17. Run the `setupSSHkeysOB42` script.
The following step presumes that the CD labeled LDAD, LINUX WFO-A, LINUX NGIT is in the PX2 CD-ROM drive.

From **PX2** as user `root`, type the following commands:

- a. `rm -rf /local/install/*`
- b. `script -a -f /local/install/setupSSHkeysOB42.out`
- c. `mount /mnt/cdrom`
- d. `cd /mnt/cdrom/home/awipsadm/ssh`
- e. `./setupSSHkeys.sh` (If prompted to overwrite a file, answer `y`)
- f. `exit`
- g. Review the script output file, `/local/install/setupSSHkeysOB42.out`, to ensure that no unexpected errors were encountered. The following message can be ignored:

```
rcp timeout error
```

18. Check Service Guard configuration.

From **PX2** as user `root`, type the following commands:

- a. `script -a -f /local/install/cmcheckconf.out`
- b. `ssh ds1`
- c. `cmcheckconf -C /etc/cmcluster/cmclconf.ascii \`
`-P /etc/cmcluster/dsswap/dsswapconf.ascii`

The following messages can be ignored

Any warnings about disks that don't have ids, and
no additional packages can be added to this cluster

Any other errors, contact the NCF.

- d. `exit` (Exits the script)
- e. `exit` (Returns to PX2)

19. Rebuild the rpm database on the DXs.

- a. Login to **dx1** as `root` and type:
`rm -f /var/lib/rpm/__db*`
`/bin/rpm -rebuilddb`

If you see the following error message:

Error: rpmdbNextIterator: skipping h# nnnn blob size.....

Rerun step a.

- b. On **dx2**, repeat step a.

End of Part 0

Part 1 - Install Day Procedures

NOTE: Each step applies to both RFC and WFO systems unless otherwise noted.

1. Verify that all applicable steps in Part 0 have been completed.
2. Contact the NCF and advise the engineer that the site is beginning the OB4.2 upgrade.
Trouble Ticket Number _____
3. Initiate service backup, if applicable.
4. For sites with a radar system, send a free text message indicating that radar information will not be available during the OB4.2 upgrade.
5. Sites with data feeds to the FAA should contact the FAA site.
6. Weather Wire uplink sites should contact Dyncorp, if necessary.
7. Sites hosting a CWSU connection should have the CWSU log out of the D2D on the CWSU system. Then unplug the wire to port 16 on the waveswitch in the equipment room to prevent accidental login by CWSU personnel during the upgrade.
8. Terminate and exit all D2D sessions, text and graphics workstations, AWIPS applications, and any site specific applications that run via crons on all graphic and text workstations.
9. Select a device to perform the upgrade. Generally, the device should be a graphics Linux workstation, but it can also be done from the xyplex console.
10. Log on to the workstation as the `root` user.
11. An interim DHS graphical workstation alarming mechanism was performed by many sites particularly in Central and Western Region. This must be undone before the OB4.2 upgrade. From OB4.2 onward, DHS alarming is automatically added via the localization scripts and are no longer site configurable.
 - a. On **DS1** as user `fxa`, check the file
`/data/fxa/siteConfig/textApps/siteTrigger.template` for the following entry:
`CCCDNMWNO /awips/fxa/bin/DHSmsg.csh`

If this entry exists, remove that single line only.
 - b. On **DS1** as user `fxa`, check for the existence of file `/awips/fxa/bin/DHSmsg.csh`
If it exists, remove it.
 - c. Exit back to the workstation as the `root` user before proceeding.
12. Load the CD on PX2 and run the prepare script. Error information and sample output are shown in the *Script Log Output* document, sections 1.1 and 1.2.
 - a. Take the LDAD, LINUX WFO-A, LINUX NGIT CD and insert it into the CD-ROM drive on PX2.
 - b. From a **Linux Workstation** as `root`, type the following:
 - i. `export TMOUT=0`
 - ii. `ssh px2`
 - iii. `mkdir -p /local/install`

- iv. `script -a -f /local/install/prepareOB42.out`
- v. `mount /mnt/cdrom`
- vi. `cd /mnt/cdrom`
- vii. `./prepare_OB42` (takes about 20 to 25 minutes)

Respond 1 (Deskjet 1600CM) or 2 (Inkjet 2280TN) when the script asks the installer "*Which Color Printer do you have (1/2)?*"

- viii. `exit` (exits the script)

Review the script output file, `/local/install/prepare_OB42.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.

If no errors occurred, proceed to Part 2. Otherwise, contact the NCF

Part 2 - Install Linux Software

NOTE: This part is required for both WFO systems and RFC systems.

1. Automatically Saved and Restored Information. No files are saved off.
2. Run the install Linux script. Error information and sample output are shown in the *Script Log Output* document, sections 2.1 and 2.2.

From **PX2** as user `root`, type the following commands:

- a. `script -a -f /local/install/installPXLXOB42.out`
 - b. `cd /mnt/cdrom`
 - c. `./installPXLX_OB42` (Takes about 60 to 80 minutes)
 - d. `exit` (Exits the script)
3. Review the script output file, `/local/install/installPXLXOB42.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.
 4. Check the PX and DX cluster. Type the following commands:

c. **hb_stat**

From the output (see sample below), verify `px1apps` is running on **PX1** and `px2apps` is running on **PX2**.

If the apps are not running as shown in example below, do i, ii, or iii, as needed.

If correct, go to step b.

```
Heartbeat Status Monitor Jan 05 22:07:12
===== M e m b e r   S t a t u s =====
Member          Status      IP address
-----
px1-nhda         Up          165.92.21.7
px2-nhda         Up          165.92.21.8
===== S e r v i c e   S t a t u s =====
Service         IPAddr      Cronfile      Owner          Start Time
-----
px1apps          165.92.21.63  px1cron,SITEpx1  px1-nhda       2005-01-05 16:58:11
px2apps          165.92.21.64  px2cron,SITEpx2  px2-nhda       2005-01-05 16:58:00
```

- i. If both apps are running on PX1, there is a problem. To fix this, go to **PX1** and type:
 1. `hb_halt px2apps`
 2. `hb_stat` (verify that packages are in primary)
- ii. If both apps are running on PX2, there is a problem. To fix this, go to **PX2** and type:
 1. `hb_halt px1apps`
 2. `hb_stat` (verify that packages are in primary)
- iii. If problems remain, call the NCF before proceeding

d. `ssh dx1 /awips/ops/bin/hb_stat`

From the output (see sample below), verify `dx1apps` is running on **DX1** and `dx2apps` is running on **DX2**.

If the apps are not running as shown in example below, do i, ii, or iii, as needed.

```
Heartbeat Status Monitor Jan 05 22:05:51
===== M e m b e r   S t a t u s =====
Member          Status      IP address
-----
dx1-nhda         Up          165.92.21.3
dx2-nhda         Up          165.92.21.4
===== S e r v i c e   S t a t u s =====
Service         IPaddr      Cronfile      Owner          Start Time
-----
dx1apps         165.92.21.65 dx1cron,SITEdx1 dx1-nhda       2005-01-05 16:57:31
dx2apps         165.92.21.66 dx2cron,SITEdx2 dx2-nhda       2005-01-05 17:02:05
```

- i. If both apps are running on DX1, there is a problem. To fix this, go to **DX1** and type:
 1. `hb_halt dx2apps`
 2. `hb_stat` (verify that packages are in primary)
- ii. If both apps are running on DX2, there is a problem. To fix this, go to **DX2** and type:
 1. `hb_halt dx1apps`
 2. `hb_stat` (verify that packages are in primary)
- iii. If problems remain, call the NCF before proceeding.

If no errors occurred, proceed to Part 3. Otherwise, contact the NCF.

Part 3 - Install OB4.2 CP Software

NOTE: This part is required for both WFO systems and RFC systems.
--

1. Automatically Saved and Restored Information. No files are saved off.
2. Run the install CP script. Error information and sample output are shown in the *Script Log Output* document, sections 3.1 and 3.2.

From **PX2** as user `root`, type the following commands:

- a. `script -a -f /local/install/installCPOB42.out`
 - b. `cd /mnt/cdrom`
 - c. `./installCP_OB42` (Takes about 5 minutes)
 - d. `exit` (Exits the script)
3. Review the script output file, `/local/install/installCP_OB42.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.

If no errors occurred, proceed to Part 4. Otherwise, contact the NCF.

Part 4 - OB4.2 Pre-Install Script

NOTE: This part is required for both WFO systems and RFC systems.

1. Automatically Saved and Restored Information. No files are saved off.
2. Run the pre-install script. Error information and sample output are shown in the *Script Log Output* document, sections 4.1 and 4.2.

From **PX2** as user `root`, type the following commands:

- a. `script -a -f /local/install/preinstallOB42.out`
- b. `cd /mnt/cdrom`
- c. `./preinstall_OB42` (Takes about 15 to 20 minutes)
- d. `exit` (Exits the script)

Review the script output file, `/local/install/preinstallOB42.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.

3. Check and terminate any stray processes on DS1, DS2, and the workstations.

From **DS1** as user `root`, type the following commands:

- a. `cd /home/ncfuser`
- b. `./check_process.sh > check_process.out` (Takes < 1 minute)

Review the `/home/ncfuser/check_process.out` file to check for any remaining processes. If a stray process is detected, terminate the process ID by using `kill <PID>`, or if necessary, `kill -9 <PID>` with the following exceptions:

- i. `/awips/hydroapps/whfs/standard/bin/process_dpafiles`
Terminate by typing `/sbin/init.d/hdpdecode stop`.
 - ii. `x400mta -d/usr/x400mail`
Terminate by typing `/awips/ops/bin/x400mta_stop`.
 - iii. `/awips/fxa/bin/ctrlCpu`
This is allowable on Linux machines, but must be terminated with the `kill` command if it is on an HP machine.
- c. Repeat step b until all applicable processes are stopped.
 - d. Exit out of DS1 and return to PX2. Type:
`exit` (returns to PX2)

4. Remove first CD from PX2 CD-ROM drive, and insert the OH, LAPS CD.

From **PX2** as user `root`, type the following commands:

- a. `cd /`
- b. `eject cdrom`

- c. Remove the first CD from the drive, and insert the OH, LAPS CD in to the CD-ROM drive.
- d. Mount the new CD by typing:

```
mount /mnt/cdrom
```

If no errors occurred, proceed to Part 5. Otherwise, contact the NCF.

Part 5 - Install OB4.2 LAPS Software

NOTE: All RFC systems and sites HFO, GUM, PBP, and SJU skip Part 5 and proceed to Part 6. All other WFO systems continue with Part 5.

1. Automatically Saved and Restored Information. No files are saved off.
2. Run the LAPS install script. Error information and sample output are shown in the *Script Log Output* document, sections 5.1 and 5.2.

From **PX2** as user `root`, type the following commands:

- a. `script -a -f /local/install/installLAPSOB42.out`
- b. `cd /mnt/cdrom`
- c. `./installLAPS_OB42` (Takes about 5 minutes)
- d. `exit` (Exits the script)

Review the script output file, `/local/install/installLAPSOB42.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.

If no errors occurred, proceed to Part 6. Otherwise, contact the NCF.

Part 6 - Install OB4.2 Hydrology Software

NOTE: This part is required for both WFO systems and RFC systems.

1. Automatically Saved and Restored Information. No files are saved.
2. Run the Hydro install script. Error information and sample output are shown in the *Script Log Output* document, sections 6.1 and 6.2 for WFO systems, and sections 6.3 and 6.4 for RFC systems.

From **PX2** as user `root`, type the following commands:

- a. `script -a -f /local/install/installOHOB42.out`
 - b. `cd /mnt/cdrom`
 - c. `./installOH_OB42` (Takes 10 to 15 minutes)
 - d. `exit`
3. Review the script output file, `/local/install/installOHOB42.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.
 4. Remove OH, LAPS CD from PX2 CD-ROM drive, and insert the HP WFO-A, NGIT UX CD.

From **PX2** as user `root`, type the following commands:

- a. `cd /`
- b. `eject cdrom`
- c. Remove the CD from the drive, and insert the HP WFO-A, NGIT-UX CD in to the CD-ROM drive.
- d. Mount the new CD by typing:

```
mount /mnt/cdrom
```

If no errors occurred, proceed to Part 7. Otherwise, contact the NCF.

Part 7 - Install OB4.2 FXA/System Software

NOTE: This part is required for both WFO systems and RFC systems.

1. Automatically Saved and Restored Information. No files are saved off.
2. Since the dsswap packages are stopped in Part 7, verify the active window in which the script is run does not have a connection to DS1. Repeat step a until the window has returned to a Linux Workstation.
 - a. **exit** (Returns to the Linux Workstation)
 - b. **ssh px2** (Returns to PX2 as `root`)
3. Run the FXA install script. Error information and sample output are shown in the *Script Log Output* document, sections 7.1 and 7.2.

From **PX2** as user `root`, type the following commands:

- a. **script -a -f /local/install/installOB42.out**
 - b. **cd /mnt/cdrom**
 - c. **./install_OB42** (Takes from 30 to 45 minutes)
 - d. **exit** (Exits the script)
4. Review the script output file, `/local/install/installOB42.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.

NOTE: It is important to check for error messages in this script. Errors may vary but if the following types of messages appear, they should not be ignored. Call the NCF or NGIT install support.

```
FIRST_CLUSTER_LOCK_PV /dev/dsk/c0t3d0 cannot be added to node ds1-nmtw
while cluster is running.
```

```
FIRST_CLUSTER_LOCK_PV /dev/dsk/c4t3d0 cannot be added to node ds2-nmtw
while cluster is running.
```

```
Error: Modifying MAX_CONFIGURED_PACKAGES value from 3 to 1 while
cluster awips is running is not supported.
```

```
cmapplyconf : Unable to verify cluster file:
/etc/cmcluster/cmclconf.ascii.
```

```
Invalid argument.
```

```
ERROR: cmapplyconf failed!
```

5. Restart LDAD applications, as applicable.
 - a. Begin by logging on the LS1 as `root`:

```
rlogin ls1
```

- b. Start all local running software, including samba, ldm, and the dissemination server. The following are examples on how to start each application. However, local sites may have slight modifications.

i. Samba.

1. Edit the `/etc/inetd.conf` file. Clear the comment character by removing the `#` from the 3 lines that contain `smbd`, `nmbd`, and `swat`. Save the file.

Type the following command:

2. `inetd -c`

ii. LDM.

There are a couple of different variations to start the local data manager. Choose the appropriate commands.

Type the following:

1. `su - ldad` (some sites use `ldm` instead of `ldad`)
2. `./ldmadmin start`
3. `exit`

Central Region uses:

```
su - ldm
cd /usr/local/ldm/runtime/bin
./ldmadmin.in start
exit
```

iii. Dissemination Server.

Type the following commands:

1. `su - ldad`
2. `/ldad/bin/DServer start`
3. `exit`

- c. Restore any crons that may restart LDAD applications.

- d. Exit out of LS1. Type the following:

`exit` (Exits out of LS1 and returns to PX2.)

6. Restore interfaces to LDAD.

- a. Turn on the dial-in phone lines to allow ASOS to access LDAD.
- b. Restore any other interfaces to LDAD.

7. Confirm DS1 swap package is running:

- a. `ssh ds1`
- b. `cmviewcl`

The following is an example of what should be seen:

CLUSTER	STATUS			
awips	up			
NODE	STATUS	STATE		
ds1-nhda	up	running		
PACKAGE	STATUS	STATE	PKG_SWITCH	NODE
dsswap	up	running	enabled	ds1-nhda
NODE	STATUS	STATE		
ds2-nhda	up	running		

- c. The dsswap package should be `running` and `enabled`. If so, skip to step d.
 - i. If state of the dsswap package is `starting` repeat step 7a through 7c.
 - ii. For all other problems call the NCF
- d. **exit**

If no errors occurred, proceed to Part 8. Otherwise, contact the NCF.

Part 8 - OB4.2 Post Install Script

NOTE: This part is required for both WFO systems and RFC systems.

1. Automatically Saved and Restored Information. No files are saved off.
2. Run the post-install script. Error information and sample output are shown in the *Script Log Output* document, sections 8.1 and 8.2.

From **PX2** as user `root`, type the following commands:

- a. `script -a -f /local/install/postinstallOB42.out`
 - b. `cd /mnt/cdrom`
 - c. `./postinstall_OB42` (Takes about 5 to 10 minutes)
 - d. `exit` (Exits the script)
3. Review the script output file, `/local/install/postinstallOB42.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.
 4. Remove the HP WFO-A, NGIT UX CD from PX2 CD-ROM drive.

From **PX2** as user `root`, type the following commands:

- a. `cd /`
- b. `eject cdrom`
- c. Remove the CD from the PX2 CD-ROM drive.

At this point, the system is up and running, users can log into the system to start D2D.

If no errors occurred, proceed to Part 9. Otherwise, contact the NCF.

Part 9 - OB4.2 After Install Procedures

NOTE: Each step applies to both RFC and WFO systems unless otherwise noted.

Procedures 1 and 2 must be done before the site can use the asyncScheduler program.

1. Configure the Asynchronous Ports:

Sites HFO, PBP, GUM, VRH, SPCW, NHCR, and WNAR skip to step f.

All other sites go to the front of AWIPS rack 2 (see figure 1) and count the number of Switch Modules currently installed in Switch Panel 2 (SwPnl2). If SwPnl2 contains 16 modules, skip to step e after reading the following note.



Figure 1

NOTE: For the instructions below, SwPnl2 is found in rack 2 and Switch Panel 3 (SwPnl3) is found in rack 3 or the AS1 rack.

- a. Locate the power cords for SwPnl2 and SwPnl3 and unplug them.
 - b. Remove the blank module panels covering slots 9 through 16 of SwPnl2.
 - c. Remove Switch Modules 9 through 16 from SwPnl3 of rack 3 and insert them into SwPnl2 slots 9 through 16 on rack 2.
 - d. Install the blank panels removed from SwPnl2 over the open slots of SwPnl3.
 - e. Relocate the site's Asynchronous Interface cables from their current modem ports (if any) on SwPnl3 to modem ports 9 through 16 of SwPnl2. As shown in procedure 2, below, port 9 corresponds to PX1/PX2 device name `/dev/tty2a1` and port 16 to `/dev/tty2a8`. Proceed to step g.
 - f. Relocate the site's Asynchronous Interface cables from modem ports 1 through 8 (if any) on SwPnl3 in rack 3 to modem ports 9 through 16 of SwPnl3. As shown in procedure 2, below, port 9 corresponds to PX1/PX2 device name `/dev/tty2a1` and port 16 to `/dev/tty2a8`.
 - g. Reapply power to both switch panels.
2. Configure AsyncScheduler:

The AsyncScheduler has been redesigned as part of OB4.2 and contains a new format for `aps_line.tbl` and `aps_pil.tbl`. Read the following section for basic information before performing the procedure.

Background information:

The port device names have changed and start at `/dev/tty2a1` and continue to `/dev/tty2a8`. The following table shows the OB4.1 assignments for the AS1/AS2 serial devices, the OB4.2 assignments for the PX1/PX2 serial devices, and SwPnl2 modem ports.

At sites HFO, PBP, GUM, VRH, SPCW, NHCR, and WNAR, only, the modem ports listed are for SwPnl3 not SwPnl2.

<u>AS1/AS2 Device Name</u>	<u>PX1/PX2 Device Name</u>	<u>SwPnl2 Modem</u>
<code>/dev/tty2a1</code> (asyncScheduler)	<code>/dev/tty2a1</code> (asyncScheduler)	port 9
<code>/dev/tty2a2</code> (reserved for NWWS)	<code>/dev/tty2a2</code> (asyncScheduler)	port 10
<code>/dev/tty2a3</code> (asyncScheduler)	<code>/dev/tty2a3</code> (asyncScheduler)	port 11
<code>/dev/tty2a4</code> (asyncScheduler)	<code>/dev/tty2a4</code> (asyncScheduler)	port 12
<code>/dev/tty2a5</code> (asyncScheduler)	<code>/dev/tty2a5</code> (asyncScheduler)	port 13
<code>/dev/tty2a6</code> (asyncScheduler)	<code>/dev/tty2a6</code> (asyncScheduler)	port 14
<code>/dev/tty2a7</code> (asyncScheduler)	<code>/dev/tty2a7</code> (asyncScheduler)	port 15
<code>/dev/tty2a8</code> (asyncScheduler)	<code>/dev/tty2a8</code> (reserved for NWWS)	port 16

When the cables are moved from AS1/AS2 to PX1/PX2, the names of these devices need to be modified in the configuration files. Here is an example of the baseline OB4.2

`/data/fxa/workFiles/asyncProdScheduler/aps_line.tbl` file which is used to configure the asyncScheduler process.

```

Line #|Line Name|Status|Device Name|Baud|Data Bits|Parity|Stop Bits
#
# aps_line.tbl - the comms line configuration file for asyncScheduler
# . first line ignored for backwards compatibility
# . delimit fields with '|'
# . spaces and tabs are ignored
# . a child process is spawned for each line entry. The child process will
#   be given the name <Line Name>, i.e., the string of chars in the second
#   field.
# . Status (aka activated): legal values are "0" (not activated) and "1"
#   (activated).
# . Device Name: use full path. For the 8-port board from Digi, it'll look
#   something like /dev/ttylnla
# . Baud: device speed, in bps. Use only well known values (2400, 4800,
#   9600, etc). See man termios. Undefined values will prevent the
#   entry from being accepted.
# . Data Bits (aka character size): must be 5, 6, 7, or 8.
# . Parity: must be "NONE", "ODD", or "EVEN"
# . Stop Bits: 1 or 2
# . Flow Control: Optional. Use "SW", "HW", or "NONE" (the default).
#   o SW = xon/xoff
#   o HW = rts/cts
#
#Line #|Line Name|Status|Device Name|Baud|DataBits|Parity|StopBits|FlowControl
#-----
# 1 |bubble|1|/dev/ttylnla|1200|8|NONE|1|HW
# 2 |fema|1|/dev/ttylnlb|9600|7|EVEN|1|
# 3 |ttynlc|1|/dev/ttynlc|9600|8|NONE|1|NONE
# 4 |ttynld|1|/dev/ttynld|9600|8|NONE|1|SW
# 5 |ttynle|1|/dev/ttynle|1200|8|NONE|1|HW
# 6 |ttynlf|1|/dev/ttynlf|9600|8|NONE|1|
# 7 |ttynlg|1|/dev/ttynlg|9600|8|NONE|1|
# 8 |RESERVED FOR N W W S|

```

NOTE: When setting up the `aps_line.tbl` file **DO NOT USE** `/dev/ttylnlh` for the device name. This port is reserved for NOAA Weather Wire Service (NWWWS).

Procedure:

- a. Make a copy of the site's current `aps_pil.tbl` and `aps_line.tbl` files:

On **PX1**, enter the following five commands:

```
cd /data/fxa/workFiles/asyncProdScheduler
mv aps_pil.tbl aps_pil.tbl.<date>
mv aps_line.tbl aps_line.tbl.<date>
cp /awips/fxa/data/aps_pil.tbl .
cp /awips/fxa/data/aps_line.tbl .
```

- b. At this point, the new `aps_pil.tbl` and `aps_line.tbl` files have been installed. However, each site needs to modify these files in order to add their unique lines and product inventory lists (PILs). Remember that line 8 is reserved for the NWWS, only.
- c. After both configuration files are updated, start the AsyncScheduler on **PX1** as `fxa`, by typing:
startAsyncScheduler

For each line in `aps_line.tbl`, there is a new persistent APS line process on **PX1F** in addition to the `asyncScheduler` process.

3. Restore access to CWSU systems (applicable to sites that host CWSUs).

Reconnect the wire to port 16 on the waveswitch in the equipment room if it was unplugged in Part 1, step 8.

4. Add Site-Specified RRS (HADS) Products Back into AWIPS

RRS files are HADS products that come into the site via the SBN and get stored into the AWIPS Informix database. Before OB4.2, sites received and stored all the HADS products in the country, which for many sites was a performance drain on the AWIPS system. In OB4.2 a change was made to the `acq_wmo_parms.sbn` file to filter out all RRS products. Sites needing to add site-specified HADS products back into their system must go to the following web page and perform the procedure entitled *Add Site-Specified RRS/HADS Products Back into AWIPS After the OB4.2 Upgrade*.

http://www.ops1.nws.noaa.gov/awips_install.htm

5. System checkout.

The following items should be checked to verify that the system is running properly.

- a. Netscape System Monitoring Window.
Start the Netscape browser and verify that servers and processes are functioning normally.
- b. Netscape bookmarks.
The bookmarks for `awipsusr` are stored in each user's home directory:

```
/home/<username>/netscape/bookmarks.html.old
```

Merge any previous bookmarks, as needed, into `bookmarks.html`.

- c. Radar products (applicable to sites that host radars).
Verify that radar products are being stored locally. In addition, verify that radar products are being sent out over the WAN by checking to the following web site:

<http://weather.noaa.gov/monitor/radar>

- 6. Merge customized site changes into crons (optional).
Site specific changes to the crons can be merged into the active crons, as needed. See Appendix A for details.
- 7. Check locally created crons and local application programs to ensure they run and point to the new location of AWIPS processes. For process location after the OB4.2 upgrade go to the following web page:

<http://www.nws.noaa.gov/mdl/icwf/OB4.2Modifications/index.html>

- 8. WWA and WarnGen templates
No new WWA or WarnGen templates were updated in OB4.2. However, the OB5 version of the WWA and WarnGen software was delivered. This should be transparent to the sites because the software should work well with existing templates. It is prudent, however, for the site to run WWA and WarnGen to ensure existing templates work as expected.
- 9. RFC Permission Change (RFC and RFC type systems)
The permissions for some directories need to be changed. To do this, the following script should be run on **DS1** as user `root` from the `/home/ncfuser` directory.

```
cd /home/ncfuser/  
fixrfcperms.sh.
```

- 10. Localization for Backup sites.
A backup localization needs to be run before the WWA and WarnGen applications can be used in backup mode.

11. Miscellaneous Procedures

- a. The `~/.ssh/authorized_keys2` file was recreated during the upgrade. Sites modifying the file with local additions need to add these modifications.
- b. Customize Purge parameters (optional)
Purging changes significantly in OB4.2. Sites needing to customize their purge parameters must become familiar with the new methodology before modifications can be made. By the end of March, 2005, a draft of the OB5 version of the SSM should be available with purge information. This can be used because purging in OB4.2 are the same as in OB5. If the OB5 version of the SSM is not available the site can use an early draft of Chapter 11 of the OB5 version of the SSM, which contains information on purging with examples. The document is found at the following web site:
<http://www.nws.noaa.gov/mdl/icwf/OB4.2Modifications/>.

- c. NOAFOSPIL workaround (optional)

As a performance enhancement, the NOAFOSPIL AFOS identifier(ID) is disabled. This means that storage of the NOAFOSPIL product for WMO IDs without a specified AFOS ID can no longer occur. If this is a problem, it is recommended that the site make additions of dummy AFOS product names and missing WMO product IDs into their ISPAN table.

A second option is to re-enable the NOAFOSPIL ID. The problem with this is that AWIPS performance becomes worse and OB5 turns off the NOAFOSPIL once again.

- d. Check the Printers on Workstations.
Ensure the printers on the workstations operate.
12. Removing the Application Servers from the FDDI and finalizing the DX monitor and control cabling. (Do this a week after installing OB4.2)

It is recommended that the sites wait a week after installing OB4.2 software before removing the ASs from the FDDI and powering them down. Instructions for doing this are found in Appendix B.

Appendix A - Crons

A. General Information

The Linux cluster heartbeat uses the single, integrated **root**-owned file which is registered and installed into `/etc/cron.d` (`px1cron` on PX1, `px2cron` on PX2, `dx1cron` on DX1 and `dx2cron` on DX2). The staging area for the crons is the `/etc/ha.d/cron.d`. When the crons are activated during heartbeat startup, these files are installed in `/etc/cron.d` where the cron daemon picks them up.

The `px1cron`, `px2cron`, `dx1cron` and `dx2cron` files define the cron jobs that are swapped by the cluster manager with a service. These are system crontab files, and since they can run cron jobs for multiple different users, the user's name must be included as the sixth field in the table.

The crons are moved after the DX/NAS installation and activation of the heartbeat for failover. They are now in `/etc/cron.d` and are all in one **root**-owned file. All the local crons are obliterated by the activate script.

The `crontab -l` command does not list the baseline user crons. To see what crons are installed on the PX for a particular user, execute the following command, replacing `<user>` with a user name:

Type:

```
grep <user> /etc/ha.d/cron.d/px*cron
```

Similarly, to see what crons are installed on the DX for a particular user, execute the following command, replacing `<user>` with a user name:

Type:

```
grep <user> /etc/ha.d/cron.d/dx*cron
```

Example: `grep root /etc/ha.d/cron.d/dx1cron`

Result: Output similar to the following:

```
10 3 * * 1 root /awips/ops/bin/nas_backup_weekly
10 3 * * 0,2,3,4,5,6 root /awips/ops/bin/nas_backup_daily
```

The format of the `px1cron`, `px2cron`, `dx1cron` and `dx2cron` files is:

min hour mday month wday user command

where:

<i>min</i>	= minute (0-59, * = every minute)
<i>hour</i>	= the hour of day to run the cron (0-23; * = hourly)
<i>mday</i>	= the day of the month (1-31, * = every day)
<i>month</i>	= the month (0-12, * = every month)
<i>wday</i>	= the day of the week (0-6, where 0 = Sunday and * = every day of the week)
<i>user</i>	= the user
<i>command</i>	= the command the cron is to run

B. Adding Local Crons

To add local crons on the PX, the site should use the `/etc/ha.d/cron.d/SITEpx1cron` for **px1apps** local crons and `/etc/ha.d/cron.d/SITEpx2cron` for **px2apps** local crons on both PX1 and PX2. The `px1cron` and `px2cron` files are re-created from the cron template during installs.

To add local crons on the DX, sites would use the `/etc/ha.d/cron.d/SITEDx1cron` file for DX1 and the `/etc/ha.d/cron.d/SITEDx2cron` file for DX2.

The new cron jobs will become active the next time the package is restarted, or immediately if:
The cron file is copied to the `/etc/cron.d` directory on the device and
the command `touch /etc/crontab` is run.

NOTE: ALL cron files in the `/etc/cron.d` directory are active. So **do not** make backup files (e.g., `SITEpx1cron.bak`) in the `/etc/cron.d` directory because `cron.d` does not discriminate and will run all jobs in every file in the directory.

Example: A local cron, an entry in the `SITEpx1cron` file, runs every 10 minutes as user **root** and creates a timestamp file would look like the following:

```
*/10 * * * * root date > /tmp/cron_timestamp
```

In this example, a file called `/tmp/cron_timestamp` would be created with contents similar to the following:

```
Mon Dec 13 21:02:28 GMT 2004
```

NOTE: The cron format that designates the "owner" of the new cron job -- the sixth field in cron file -- and the user field must be filled in.

Appendix B- Removing AS1 and AS2 from the FDDI and Powering Them Down

NOTE: The steps below should be performed approximately one week after the 4.2 software upgrade has been completed. These steps remove the Application Servers from the AWIPS configuration.

1. Remove AS1 from FDDI Ring:
 - a. Remove the FDDI patch cable (NWS3001) between FDDI Patch Panel Port AS1B and FDDI Patch Panel Port LSW2-A.
 - b. Move the FDDI patch cable (NWS3001) from Port AS1A and connect it to Port LSW2-A.
2. Remove AS2 from FDDI Ring:
 - a. Remove the FDDI patch cable (NWS3001) between FDDI Patch Panel Port AS2B and FDDI Patch Panel Port LSW1-A.
 - b. Move the FDDI patch cable (NWS3001) from Port AS2A and connect it to Port LSW1-A.

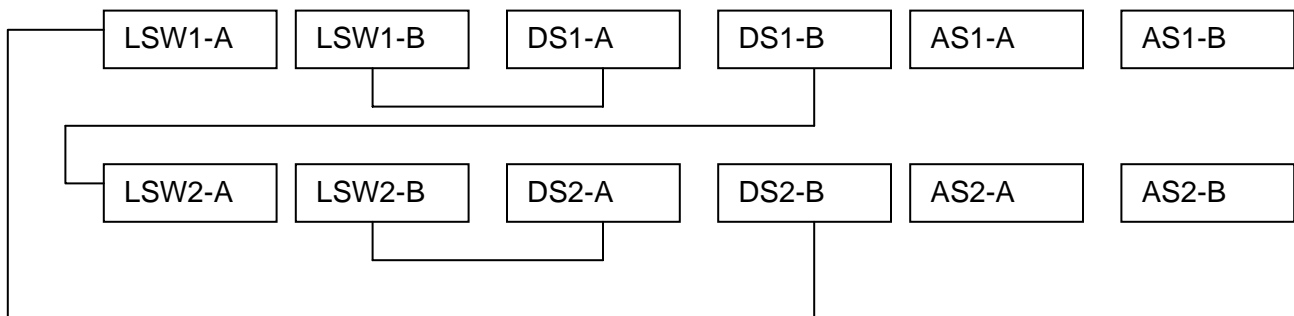


Figure 1: FDDI Patch Panel Configuration After Removing ASs from FDDI Ring

3. Power down AS1 and AS2.
4. Remove AS Monitor and Control (M&C) Cables and Move DX M&C Cables:
 - a. Remove the AS1 M&C cable from Xyplex port 1.
 - b. Remove the DX1 M&C cable from Xyplex port 26, apply new label (provided), reattach to Xyplex port 1.
 - c. Remove the AS2 M&C cable from Xyplex port 2.
 - d. Remove the DX2 M&C cable from Xyplex port 27, apply new label (provided), reattach to Xyplex port 2.
 - e. Attach XT4 and XT5 cables removed during DX installation.
5. Formal disposal of AS1 and AS2 and rack consolidation are not performed at this time but will be taken care of in forth coming mod note.

Attachment B – EMRS Report Sample

A26 Detail Form - APX, GAYLORD, MI :: EMRSET CMDEV-EMRSMGR - Microsoft Internet Explorer
_ _ X

New A26 Commit A26 Place on Hold Copy A26 Delete A26 Detail Report Document Summary Help

GENERAL INFORMATION

NEW RECORD

WFO* APX

Document No.* APX50209000

1. Open Date
02/09/2005

Open Time
08:00

2. Op Initials
WSH

3. Response Priority
☐ Immediate ☐ Low
☐ Routine ☒ Not Applicable

4. Close Date
02/09/2005

Close Time
16:00

5. Maintenance Description 473 characters left AWIPS

Install AWIPS Release OB4.2

EQUIPMENT INFORMATION

6. Station ID*
APX

7. Equipment Code
AWIPS

8. Serial Number
001

9. TM
M

10. AT
M

11. How Mal
999

Alert: Time Remaining:
(For Block 12 use only)

13. PARTS USAGE and CONFIGURATION MANAGEMENT REPORTING

ASN	Vendor Part No. (New Part)	Serial Number (Old Part)	Serial Number (New Part)	
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14. WORKLOAD INFORMATION

a. Routine	b. Non-Routine	c. Travel	d. Misc	e. Overtime
Hours Minutes	Hours Minutes	Hours Minutes	Hours Minutes	Hours Minutes
<div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div>	<div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div>	<div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div>	<div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div>	<div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div>

MISCELLANEOUS INFORMATION

15. Maintenance Comments 643 characters left

Performed all installation activities associated with AWIPS Release OB4.2, I.A.W AWIPS Software Mod Note 54

16. Tech Initials
RJW

17. SPECIAL PURPOSE REPORTING INFORMATION

a. Mod No.
S54

b. Mod Act/Deact Date
02/09/2005

c. Block C

d. Trouble Ticket No.

e. Block E

Commit A26

Place on Hold

Copy A26

New A26

Cancel

Done
Internet